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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/135,413	08/14/98	FORBES	L 303.354US2

MM11/0223  
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EXAMINER

NGUYEN, V

ART UNIT PAPER NUMBER

2818

DATE MAILED: 02/23/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No. 09/135,913Applicant(s) Forbes et alExaminer J. NarayanGroup Art Unit 2818

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on Ple - Amendment filed on 10/19/98.
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 19-21, 25-42 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 19-21, 25-42 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of References Cited, PTO-892
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

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### DETAILED ACTION

Claims 19-21 and 25-42 are present for examination.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 19-21 and 25-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Aoyama et al.

Lee (See fig. 1) teaches a method of using a capacitor in a memory cell structure for storing data having an amorphous silicon carbide layer as insulating film. Col. 3 (see line 30) mentions that the structure having a bandgap energy of 2.2 eV, thus obviously suggests the use of current conduction between the upper electrode and the insulator at lower voltage than required for a polysilicon floating gate a-SiC insulator interface.


It is noted that Lee does not suggest his structure as a floating gate transistor; however, Aoyama et al (see fig. 2) while also suggests the use of an a-SiC insulator further shows that such use of SiC film is employed in a memory floating gate device. Thus it would have been obvious to one skilled in this art to apply Aoyama et al into the similar device of Lee et al to create a floating

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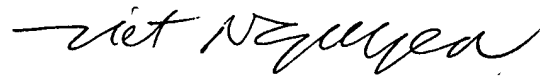
gate transistor having an a-SiC insulator with small barrier energy bandgap as claimed. Other claimed features are considered as obvious design choices to an expedient artisan in this art.

The prior arts cited but not relied upon are considered as pertinent to the present application.

Any inquiry concerning this communication should be directed to Viet Nguyen at telephone number (703) 308-4897.

  
V. Nguyen

2/15/99



**Viet Q. Nguyen**  
**Primary Examiner**